

Borehole

**41-05-03**

Log Event A

**Borehole Information**

|                         |                               |                                  |
|-------------------------|-------------------------------|----------------------------------|
| Farm : <u>SX</u>        | Tank : <u>SX-105</u>          | Site Number : <u>299-W23-131</u> |
| N-Coord : <u>35,440</u> | W-Coord : <u>75,720</u>       | TOC Elevation : <u>662.76</u>    |
| Water Level, ft :       | Date Drilled : <u>Unknown</u> |                                  |

**Casing Record**

|                            |                                |                    |
|----------------------------|--------------------------------|--------------------|
| Type : <u>Steel-welded</u> | Thickness : <u>0.280</u>       | ID, in. : <u>6</u> |
| Top Depth, ft. : <u>0</u>  | Bottom Depth, ft. : <u>125</u> |                    |

**Equipment Information**

|                                   |   |                                    |
|-----------------------------------|---|------------------------------------|
| Logging System : <u>2</u>         | Detector Type : <u>HPGe</u>               | Detector Efficiency: <u>35.0 %</u> |
| Calibration Date : <u>03/1995</u> | Calibration Reference : <u>GJPO-HAN-1</u> |                                    |

**Logging Information**

|                                  |                                 |                                       |
|----------------------------------|---------------------------------|---------------------------------------|
| Log Run Number : <u>1</u>        | Log Run Date : <u>5/23/1995</u> | Logging Engineer: <u>Gary Lekvold</u> |
| Start Depth, ft.: <u>0.0</u>     | Counting Time, sec.: <u>100</u> | L/R : <u>L</u> Shield : <u>N</u>      |
| Finish Depth, ft. : <u>106.5</u> | MSA Interval, ft. : <u>0.5</u>  | Log Speed, ft/min.: <u>n/a</u>        |

|                                  |                                 |                                       |
|----------------------------------|---------------------------------|---------------------------------------|
| Log Run Number : <u>2</u>        | Log Run Date : <u>5/24/1995</u> | Logging Engineer: <u>Gary Lekvold</u> |
| Start Depth, ft.: <u>122.5</u>   | Counting Time, sec.: <u>100</u> | L/R : <u>L</u> Shield : <u>N</u>      |
| Finish Depth, ft. : <u>105.5</u> | MSA Interval, ft. : <u>0.5</u>  | Log Speed, ft/min.: <u>n/a</u>        |

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**Analysis Information**

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Analyst : D.C. StromswoldData Processing Reference : Data Analysis Manual Ver. 1Analysis Date : 8/11/1995**Analysis Notes :**

This borehole was deepened from 75 to 130 ft in 1978 and plugged with cement from 125 to 130 ft.

The borehole was logged in two runs: run 1 from 0 to 106.5 ft and run 2 from 122.5 to 105.5 ft. Counting time was 100-s at each .5-ft station.

The casing thickness was 0.31 in.; a correction factor for 0.33-in. casing was used during analysis.

Increases in the KUT activities at 76 ft indicate an apparent lithology change.

Cs-137 was the only man-made radionuclide identified, occurring continuously from the surface to about 38.5 ft, from 54 to 58 ft, from 62 to 66.5 ft, and intermittently to TD. The highest concentration was about 30 pCi/g at 0.5 ft.

**Log Plot Notes:**

Three log data plots are provided. The Cs-137 concentration is provided in a separate plot to present the details of Cs-137 activity and contamination distribution. The error of the Cs-137 activity determination is shown by error bars that represent the 95-percent confidence interval. The calculated MDA is shown on this plot as open circles. If the calculated concentration is less than the MDA, it is considered a non-detect and the concentration is not reported.

A plot of naturally occurring potassium, uranium, and thorium (K-40, U-238, and Th-232) is provided to allow correlation of these data with geologic information. On the Th-232 plot, the MDA value is shown as zero at some depth locations. This zero value was a result of an anomaly in the commercial spectrum analysis software which has been corrected by the vendor. Because the MDA calculation at these few points is not significant relative to the intended use of the plot, the data were not reprocessed and corrected. Therefore, these MDA data points should be ignored.

A combination plot of individual radionuclide activities is provided that includes the total gamma-ray count rate calculated from the spectral data and the WHC Tank Farms gross gamma-ray log data acquired with the gross gamma-ray logging systems.